Amendments

In the Claims:

Please amend the claims as follows:

Claims 1-91 (canceled)

92. (Previously Presented) An automated, real-time electronic inventory system, comprising:

(A) a plurality of radio frequency identification (RFID) tags, wherein each tag is assigned a first permanent identification number and a second permanent identification number, wherein said RFID tags are configured to receive and transmit signals; and

(B) a tag reader having means for transmitting a signal to said RFID tags and means for resolving contention between multiple RFID tags that respond to said signal;

(C) wherein said RFID tags are configured to receive said signal from said reader, evaluate said first or second permanent identification numbers in response to receiving said signal, and reply to said signal if appropriate.

93. (Previously Presented) The electronic inventory of claim 92, wherein at least one of said plurality of RFID tags has a sensor; and means for transmitting the contents of said sensor.

94. (Currently Amended) The electronic inventory system of claim 92, wherein said signal is a clock signal, and said tag reader emits a series of clock signals, wherein each clock signal ~~defining~~ defines a time slot.

95. (Previously Presented) The electronic inventory system of claim 94, wherein each RFID tag counts said clock signals and when the count is equivalent to said first permanent identification number, transmits its reply to said tag reader.

96. (Previously Presented) The electronic inventory system of claim 95, wherein said tag reader accumulates said replies of each tag that responded.

97. (Previously Presented) The electronic inventory system of claim 96, wherein said tag reader polls all tags whose reply conflicted with another tag.

98. (Previously Presented) The electronic inventory of claim 92, wherein said first and second permanent identification numbers are a tag identification number (Tag ID) and a manufacturer number, wherein said signal is a clock signal, wherein each tag further comprises:

means for receiving a wake-up signal followed by a first clock signal;

means for incrementing a first tag count in response to said first clock signal;

means for transmitting said Tag ID assigned to said tag when said Tag ID corresponds to said first tag count;

means for receiving a second clock signal;

means for incrementing a second tag count in response to said second clock signal; and

means for transmitting said manufacturer number assigned to said tag when said manufacturer number of said tag corresponds to said second count.

99. (Previously Presented) The electronic inventory of claim 92, wherein said first and second permanent identification numbers are a tag identification number (Tag ID) and a manufacturer number, wherein said signal is a clock signal, wherein said tag reader comprises:

means for transmitting a wake-up signal followed by a first clock signal;

means for incrementing a first reader count in response to said first clock signal,

means for receiving a Tag ID transmitted by a tag in response to said first clock signal;

means for storing a given first reader count when more than one tag responds to said first clock signal that corresponds to said given first reader count;

means for transmitting said given first reader count followed by a second clock signal; and

means for receiving a manufacturer number transmitted by a tag in response to said second clock signal.

Claim 100 (canceled)

101. (Previously Presented) An automated, real-time electronic inventory system, comprising:

(A) a plurality of radio frequency identification (RFID) tags, wherein each tag is assigned a plurality of identification numbers, wherein said RFID tags are configured to receive and transmit signals; and

(B) a tag reader having means for transmitting a signal to said RFID tags and means for resolving contention between multiple RFID tags that respond to said signal;

(C) wherein said RFID tags are configured to receive said signal from said tag reader, evaluate one or more of said plurality of identification numbers, and reply to said signal if appropriate.

102. (Previously Presented) The electronic inventory system of claim 101, wherein said tag reader can initiate an immediate read of said RFID tags, a specific RFID tag read, or a timed broadcast read of said RFID tags.

103. (Previously Presented) The electronic inventory system of claim 101, wherein at least one of the plurality of RFID tags has a sensor.

104. (Currently Amended) An [automated, real-time electronic] inventory system, comprising a plurality of radio frequency identification (RFID) tags and a tag reader, wherein at least one RFID tag responds to said tag reader during one of a plurality of time slots, and said tag reader [that] performs multiple reads of said RFID tags to avoid [time slot] contention when two or more RFID tags respond during the same time slot, wherein said RFID tag is identified by a plurality of bits, wherein said RFID tag responds to said tag reader with a first plurality of said plurality of bits during a first read and a second plurality of said plurality of bits during a second read.

Claim 105 (canceled)

106. (Previously Presented) A system for locating a tag, wherein each tag is assigned a first permanent identification number and a second permanent identification number, the system comprising:

a tag reader configured to transmit a first value corresponding to the first permanent identification number of a tag to be located and a second value corresponding to the second permanent identification number of a tag to be located ; and

a tag that transmits, in response to receiving said first value, the first permanent identification number assigned to said tag when the first permanent identification number assigned to said tag corresponds to said first value, wherein said tag further transmits, in response to receiving said second value, the second permanent identification number assigned to said tag when the second permanent identification number assigned to said tag corresponds to said second value.

107. (Previously Presented) A radio frequency identification tag, wherein each tag is assigned a first permanent identification number and a second permanent identification number, wherein the tag is interrogated by a tag reader having means for transmitting a first clock signal and for incrementing a first reader count in response to the first clock signal, means for storing the first reader count when more than one tag responds to the first clock signal that corresponds to the first reader count, and means

for transmitting the stored first reader count followed by a second clock signal, the tag comprising:

means for incrementing a first tag count in response to the first clock signal, and

means for transmitting the first permanent identification number assigned to the tag when the permanent identification number of the tag corresponds to said first tag count,

means for incrementing a second tag count in response to receiving the second clock signal, and

means for transmitting the second permanent identification number assigned to the tag when the second permanent identification number of the tag corresponds to said second tag count.

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108. (Previously Presented) A method for conducting an inventory of tags, wherein each tag is assigned a first permanent identification number and a second permanent identification number, the method comprising the steps of:

at a tag reader, transmitting a first clock signal, waiting for a reply from a plurality of the tags, and transmitting a first reader count followed by a second clock signal; and

at each tag,

incrementing a first tag count in response to said first clock signal and

transmitting the first permanent identification number assigned to said tag when the first permanent identification number of said tag corresponds to said first tag count;

at each tag that responds to said transmitted first reader count,

incrementing a second tag count in response to said second clock signal, and

transmitting the second permanent identification number assigned to said tag when the second permanent identification number of said tag corresponds to said second tag count.

109. (Previously Presented) A method for conducting an electronic inventory of radio frequency identification tags, the method comprising the steps of:

(A) transmitting a first signal to a plurality of radio frequency identification (RFID) tags, wherein each tag is assigned a first

identification number and a second identification number, wherein said RFID tags are configured to receive and transmit signals; and

(B) receiving a reply from said plurality of RFID tags, said tags responding to said first signal based on the value of said first identification number;

(C) resolving contention between multiple RFID tags if there is a conflict between at least two of said RFID tags subsequent to said RFID tags responding to said first signal, including transmitting a second signal to said plurality of RFID tags.

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110. (Previously Presented) The method of claim 109, wherein at least one of said RFID tags includes a sensor, the method further including receiving sensor data from at least one RFID tag.

111. (Previously Presented) The method of claim 109, further comprising receiving a reply to said second signal from at least one RFID tag based on the value of said second identification number.

112. (Previously Presented) The electronic inventory system of claim 92, wherein at least one of said plurality of RFID tags is manufactured on a flexible substrate.

113. (Previously Presented) The electronic inventory system of claim 101, wherein at least one of said plurality of RFID tags is manufactured on a flexible substrate.

114. (Previously Presented) The system of claim 106, wherein said tag includes a sensor.

115. (Previously Presented) The system of claim 106, wherein said tag is manufactured on a flexible substrate.

116. (Previously Presented) The tag of claim 107, wherein the tag further includes a sensor.

117. (Previously Presented) The tag of claim 107, wherein the tag is manufactured on a flexible substrate.

118. (Currently Amended) The system of claim 104, wherein said tag responds to said tag reader within a time slot defined by at least a plurality of said plurality of bits.

119. (Previously Presented) The system of claim 104, wherein one of said RFID tags includes a sensor.

Cancelled

120. (Previously Presented) The system of claim 104, wherein said tag reader is configured to transmit a first value corresponding to said first plurality of said plurality of bits of a tag to be located and a second value corresponding to said second plurality of said plurality of bits of a tag to be located.

121. (Previously Presented) The system of claim 120, wherein said tag transmits, in response to receiving said first value, said first plurality of said plurality of bits assigned to said tag when said first plurality of said plurality of bits corresponds to said first value, wherein said tag further transmits, in response to receiving said second value, said second plurality of said plurality of bits assigned to said tag when said second plurality of said plurality of bits corresponds to said second value.

122. (Previously Presented) The system of claim 121, wherein said tag is further identified by a third plurality of said plurality of bits, wherein said tag reader is further configured to transmit a third value corresponding to said third plurality of said plurality of bits of a tag to be located, wherein said tag transmits, in response to receiving said third value, said third plurality of said plurality of bits corresponding to said third value.

123. (Previously Presented) The system of claim 121, wherein said tag includes a sensor.

124. (Previously Presented) The system of claim 104, wherein at least one of said RFID tags is attached to a piece of merchandise.

125. (Previously Presented) The system of claim 124, wherein at least one of said RFID tags is manufactured on a flexible substrate.

126. (Previously Presented) The system of claim 104, wherein said tag reader is further configured to transmit a wake-up signal.

127. (Previously Presented) The system of claim 104, wherein at least one of said RFID tags is manufactured on a flexible substrate.

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128. (Previously Presented) The system of claim 104, wherein said RFID tags are configured to receive and transmit signals.

129. (Previously Presented) The system of claim 104, wherein said RFID tags are configured to receive a signal from said tag reader, evaluate said signal relative to said first plurality of said plurality of bits or second plurality of said plurality of bits, and reply to said signal when appropriate.

130. (Previously Presented) The system of claim 129, wherein at least one of said plurality of RFID tags has a sensor; and means for transmitting the contents of said sensor.

131. (Previously Presented) The system of claim 129, wherein said tag reader emits a series of clock signals, each clock signal defines a time slot, and said signal is a clock signal.

132. (Previously Presented) The system of claim 131, wherein each RFID tag begins a count based on said clock signal and when said count is equivalent to said first plurality of said plurality of bits, transmits its reply to said tag reader

133. (Previously Presented) The system of claim 131, wherein said tag reader polls all tags whose reply conflicted with another tag.

134. (Previously Presented) The system of claim 104, wherein said tag reader can initiate an immediate read of said RFID tags, a specific RFID tag read, or a timed broadcast read of said RFID tags.

135. (Currently Amended) A radio frequency identification (RFID) tag that is interrogated by a tag reader, comprising:

means for receiving a first signal from the tag reader, the tag reader performs multiple reads of the RFID tag to avoid time slot contention, wherein the tag is identified by a plurality of bits, and wherein the tag responds to the tag reader during one of a plurality of time slots; and

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means for transmitting a second signal to the tag reader in response to receiving said first signal from the tag reader, wherein said second signal includes a first plurality of said plurality of bits during a first read and a second plurality of said plurality of bits during a second read from the tag reader.

136. (Previously Presented) The RFID tag of claim 135, wherein the tag responds to the tag reader within a time slot defined by said first or second plurality of said plurality of bits.

137. (Previously Presented) The RFID tag of claim 135, wherein the tag further includes a sensor.

138. (Previously Presented) The RFID tag of claim 135, wherein the tag is attached to a piece of merchandise.

139. (Previously Presented) The RFID tag of claim 138, wherein the tag is manufactured on a flexible substrate.

140. (Previously Presented) The RFID tag of claim 135, wherein the tag is configured to evaluate said signal relative to said first plurality of said plurality of bits or second plurality of said plurality of bits, and reply to said signal when appropriate.

141. (Previously Presented) The RFID tag of claim 140, wherein the tag further comprising:

means for incrementing a first tag count in response to receiving a first clock signal, and

means for transmitting said first plurality of said plurality of bits assigned to the tag when said first plurality of said plurality of bits of the tag corresponds to said first tag count,

means for incrementing a second tag count in response to receiving said second clock signal, and

means for transmitting said second plurality of said plurality of bits assigned to the tag when said second plurality of said plurality of bits of the tag corresponds to said second tag count.

142. (Previously Presented) The RFID tag of claim 135, wherein said first signal comprises a clock signal.

143. (Currently Amended) A method for conducting an electronic inventory of radio frequency identification tags, the method comprising the steps of:

(A) transmitting a first signal to a plurality of radio frequency identification (RFID) tags, wherein <u>each</u> said tag is identified by a plurality of bits, wherein said RFID tags are configured to receive and transmit signals; and

(B) receiving a reply from said plurality of RFID tags <u>during one of a plurality of time slots</u>, said tags responding to said first signal based on the value of a first plurality of said plurality of bits;

(C) resolving contention between multiple RFID tags if [there is a conflict between] at least two of said RFID tags <u>respond during</u>

the same time slot [subsequent to said RFID tags responding] to said first signal, including transmitting a second signal to said plurality of RFID tags.

144. (Previously Presented) The method of claim 143, wherein at least one of said RFID tags includes a sensor, the method further including receiving sensor data from said at least one of said RFID tags.

145. (Previously Presented) The method of claim 143, further comprising receiving a reply to said second signal from at least one RFID tag based on the value of a second plurality of said plurality of bits.

146. (Previously Presented) The method of claim 143, further comprising transmitting a first value corresponding to said first plurality of said plurality of bits of a tag to be located and a second value corresponding to said second plurality of said plurality of bits of a tag to be located.

147. (Previously Presented) The method of claim 146, further comprising transmitting, in response to receiving said first value, said first plurality of said plurality of bits assigned to said tag when said first plurality of said plurality of bits corresponds to said first value, wherein said tag further transmits, in response to receiving said second value, said second plurality of said plurality of bits assigned to said tag when the second plurality of said plurality of bits corresponds to said second value.

148. (Previously Presented) The method of claim 147, wherein said tag is further identified by a third plurality of said plurality of bits, wherein the method further comprising transmitting a third value corresponding to said third plurality of said plurality of bits of a tag to be located, wherein said tag transmits, in response to receiving said third value, said third plurality of said plurality of bits corresponding to said third value.

149. (Previously Presented) The method of claim 148, further comprising attaching at least one of said RFID tags to a piece of merchandise.

150. (Previously Presented) The method of claim 149, further comprising manufacturing at least one of said RFID on a flexible substrate.

151. (Previously Presented) The method of claim 143, further comprising transmitting a wake-up signal.

152. (Previously Presented) The method of claim 143, wherein said first signal and second signal are a clock signals, wherein each clock signal defines a time slot.

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153. (Previously Presented) The method of claim 152, wherein each RFID tag begins a count based on said clock signal and when said count is equivalent to said first plurality of said plurality of bits, transmits its reply to said tag reader.

154. (Previously Presented) The method of claim 143, further comprising initiating an immediate read of said RFID tags, a specific RFID tag read, or a timed broadcast read of said RFID tags.

Please add the following new claims:

155. (New) The system of claim 104, wherein said tag reader emits a series of clock signals, each clock signal defines a time slot, wherein each said RFID tag responds during a time slot defined by data stored on each said RFID tag.

156. (New) The system of claim 155, wherein said data is at least some of said plurality of bits.

157. (New) The system of claim 104, wherein said tag reader includes a PCMCIA card that is configured for a specific application.

158. (New) The system of claim 92, wherein said tag reader includes a PCMCIA card that is configured for a specific application.

159. (New) The system of claim 101, wherein said tag reader includes a PCMCIA card that is configured for a specific application.

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160. (New) The system of claim 106, wherein said tag reader includes a PCMCIA card that is configured for a specific application.